

THAT WHICH IS CLAIMED IS:

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A2
Rule
1.126
- 1754-100401
- 1 38. A stably transformed duckweed plant comprising a heterologous nucleic acid of interest incorporated in its genome.
 - 2 40. The stably transformed duckweed plant according to Claim 38, wherein said duckweed plant comprises fewer than 5 copies of said heterologous nucleic acid of interest.
 - 3 41. The stably transformed duckweed plant according to Claim 38, wherein said duckweed plant is selected from the group consisting of the genus *Spirodela*, genus *Wolffia*, genus *Wolffiella*, and genus *Lemna*.
 - 4 42. The stably transformed duckweed plant according to Claim 38, wherein said duckweed plant is selected from the genus *Lemna*.
 - 5 43. The stably transformed duckweed plant according to Claim 38, wherein said duckweed plant is selected from the group consisting of a species of *Lemna minor*, a species of *Lemna miniscula*, and a species of *Lemna gibba*.
 - 6 44. The stably transformed duckweed plant according to Claim 38, wherein said nucleic acid comprises at least one expression cassette comprising a gene which confers resistance to a selection agent.
 - 7 45. The stably transformed duckweed plant according to Claim 44, wherein said gene which confers resistance to a selection agent is selected from the group consisting of *neo*, *bar*, *pat*, *ALS*, *HPH*, *HYG*, *EPSP* and *Hml*.
 - 8 46. The stably transformed duckweed plant according to Claim 38, wherein said nucleic acid comprises two genes of interest.
 - 9 47. The stably transformed duckweed plant according to Claim 38, wherein said nucleic acid encodes a protein or peptide selected from the group consisting of

insulin, growth hormone, α -interferon, β -glucocerebrosidase, retinoblastoma protein, p53 protein, angiostatin, leptin, and serum albumin.

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48. The stably transformed duckweed plant according to Claim ~~38~~¹, wherein said nucleic acid encodes at least one protein or peptide subunit of a multimeric protein selected from the group consisting of hemoglobin, collagen, P450 oxidase, and a monoclonal antibody.

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51. The stably transformed duckweed plant according to Claim ~~38~~¹, wherein said nucleic acid encodes a secreted protein or peptide.

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52. The stably transformed duckweed plant according to Claim ~~48~~⁵, wherein said duckweed plant is from a species of *Lemna minor*.

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53. A stably transformed duckweed plant tissue comprising a heterologous nucleic acid of interest incorporated in its genome.

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54. The stably transformed duckweed plant tissue according to Claim ~~63~~¹³, wherein said plant tissue is meristematic tissue.

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55. The stably transformed duckweed plant tissue according to Claim ~~63~~¹³, wherein said plant tissue is frond tissue.

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56. The stably transformed duckweed plant tissue according to Claim ~~63~~¹³, wherein said plant tissue is callus tissue.

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57. The stably transformed duckweed plant tissue according to Claim ~~66~~¹⁶, wherein said plant tissue is Type I callus tissue.

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58. A duckweed tissue culture comprising the stably transformed duckweed plant tissue of Claim ~~63~~¹³.

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A stably transformed duckweed cell comprising a heterologous nucleic acid of interest incorporated in its genome.

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A stably transformed duckweed plant comprising a chimeric nucleic acid of interest incorporated in its genome, wherein said chimeric nucleic acid comprises a coding sequence operably linked to a transcription initiation region that is heterologous to said coding sequence.

Lu¹²
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The stably transformed duckweed plant according to Claim ²⁰~~70~~, wherein said chimeric nucleic acid comprises a duckweed coding sequence operably linked to a transcription initiation region that is heterologous to said coding sequence.

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The stably transformed duckweed plant accordingly to Claim ²⁰~~70~~, wherein said chimeric nucleic acid is flanked by T-DNA border sequences.

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The stably transformed duckweed plant according to Claim ²⁰~~70~~, wherein said duckweed plant comprises fewer than 5 copies of said chimeric nucleic acid.

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The stably transformed duckweed plant according to Claim ²⁰~~70~~, wherein said duckweed plant is selected from the group consisting of the genus *Spirodela*, genus *Wolffia*, genus *Wolffiella*, and genus *Lemna*.

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The stably transformed duckweed plant according to Claim ²⁰~~70~~, wherein said duckweed plant is selected from the genus *Lemna*.

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The stably transformed duckweed plant according to Claim ²⁰~~70~~, wherein said duckweed plant is selected from the group consisting of a species of *Lemna minor*, a species of *Lemna miniscula*, and a species of *Lemna gibba*.

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The stably transformed duckweed plant according to Claim ¹~~78~~, wherein said chimeric nucleic acid of interest comprises at least one expression cassette comprising a gene which confers resistance to a selection agent.

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The stably transformed duckweed plant according to Claim 27, wherein said gene which confers resistance to a selection agent is selected from the group consisting of *neo*, *bar*, *pat*, *ALS*, *HPH*, *HYG*, *EPSP* and *Hml*.

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The stably transformed duckweed plant according to Claim 20, wherein said chimeric nucleic acid comprises two genes of interest.

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The stably transformed duckweed plant according to Claim 20, wherein said chimeric nucleic acid encodes a protein or peptide selected from the group consisting of insulin, growth hormone, α -interferon, β -glucocerebrosidase, retinoblastoma protein, p53 protein, angiostatin, leptin, and serum albumin.

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The stably transformed duckweed plant according to Claim 20, wherein said chimeric nucleic acid encodes at least one protein or peptide subunit of a multimeric protein selected from the group consisting of hemoglobin, collagen, P450 oxidase, and a monoclonal antibody.

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The stably transformed duckweed plant according to Claim 20, wherein said chimeric nucleic acid encodes a secreted protein or peptide.

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The stably transformed duckweed plant according to Claim 26, wherein said duckweed plant is from a species of *Lemna minor*.

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A stably transformed duckweed plant tissue comprising a chimeric nucleic acid of interest incorporated in its genome, wherein said chimeric nucleic acid comprises a coding sequence operably linked to a transcription initiation region that is heterologous to said coding sequence.

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The stably transformed duckweed plant tissue according to Claim 34, wherein said plant tissue is meristematic tissue.

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The stably transformed duckweed plant tissue according to Claim 34, wherein said plant tissue is frond tissue.

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The stably transformed duckweed plant tissue according to Claim ³⁴~~84~~, wherein said plant tissue is callus tissue.

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The stably transformed duckweed plant tissue according to Claim ³⁷~~87~~, wherein said plant tissue is Type I callus tissue.

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A duckweed tissue culture comprising the stably transformed duckweed plant tissue of Claim ³⁷~~84~~.

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A stably transformed duckweed cell comprising a chimeric nucleic acid of interest incorporated in its genome, wherein said chimeric nucleic acid comprises a coding sequence operably linked to a transcription initiation region that is heterologous to said coding sequence.

date
1.12.04

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